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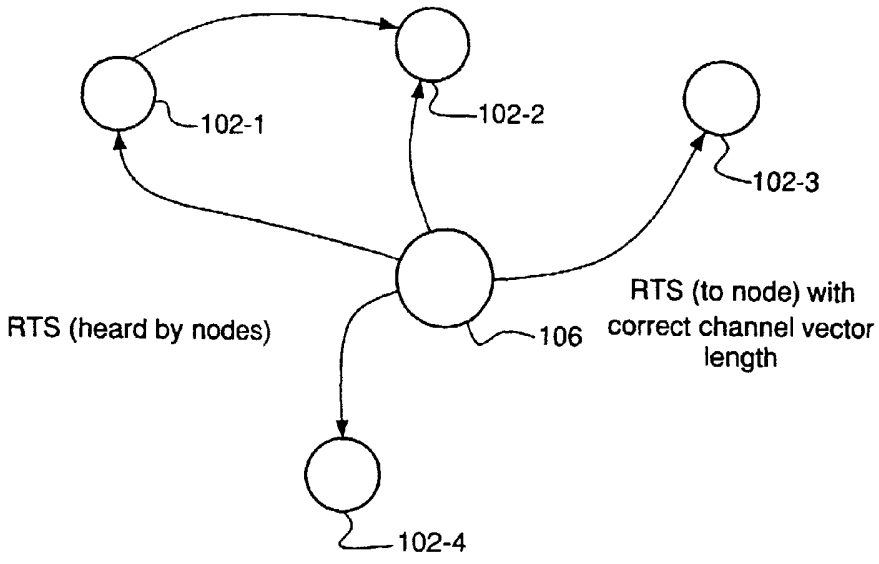
[Continued on next page]

(54) Title: ARQ MAC FOR AD-HOC COMMUNICATION NETWORKS



(57) Abstract: A system and method for a media access control (MAC) algorithm with separate operation modes for good channel and bad channel communication. Variables, including channel vector values transmitted in request-to-send/clear-to-send (RTS/CTS) messages (102-1 and 106), are varied depending on channel mode, resulting in optimized system throughput. In a first mode, the present invention provides a system and method to estimate a channel vector length (102-1), and communicate the length to a first node and any associated groups of nodes receiving the RTS/CTS sequence. In a second mode, a maximum channel vector length is used (106), as retransmissions are less probable in good channels.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04J 3/16; H04L 12/413
US CL : 370/437,447

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 370/437,447

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
IEEE, search terms: RTS and CTS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,231,634 A (GILES et al) 27 July 1993 (27.07.1993), Figures 2A-2B, 4A, 4B.	1, 13, 25
A	US 5,844,905 A (MCKAY et al.) 01 December 1998 (01.12.1998), figure 2 and figure 3.	1-36
A	US 6,349,210 B1 (LI) 19 February 2002 (19.02.2002), figures 1-3, 5A, and abstract and column 3, liknes 1-63.	1-36
A,P	US 6,404,756 B1 (WHITEHILL et al) 11 June 2002 (11.06.2002), abstract, figure 2, 3b, column 2, lines 25 to column 3 lines 37.	1-36
A, P	US 6,522,650 B1 (YONGE, III et al) 18 Feburary 2003 (18.06.2003), abstract, claims 1-26	1-36

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
30 September 2003 (30.09.2003)	02 DEC 2003
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